




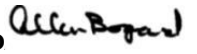




# CITY COUNCIL

## AGENDA REQUEST

<b>AGENDA OF:</b>	<b>11-05-13</b>	<b>AGENDA REQUEST NO:</b>	<b>IV-E</b>
<b>INITIATED BY:</b>	<b>ANDREW YEE ENGINEER I</b>	<b>RESPONSIBLE DEPARTMENT:</b>	<b>ENGINEERING</b>
<b>PRESENTED BY:</b>	<b>TIMOTHY JAHN P.E. TWJ SENIOR ENGINEER</b>	<b>DIRECTOR:</b>	<b>CHRISTOPHER STEUBING, P.E., CFM, CITY ENGINEER CLS</b>
		<b>ADDITIONAL DIRECTOR (S):</b>	<b>KENNETH RENEAU,  INTERIM DIRECTOR OF WATER UTILITIES</b>
<b>SUBJECT / PROCEEDING:</b>	<b>24-INCH FORCEMAIN REPLACEMENT - LEXINGTON LIFT STATION TO SWEETWATER LIFT STATION – CIP WW1303 AUTHORIZE DESIGN SERVICES CONTRACT WITH DANNENBAUM ENGINEERING CORPORATION</b>		
<b>EXHIBITS:</b>	<b>LOCATION MAP DANNENBAUM ENGINEERING CORPORATION SIGNED CONTRACT DANNENBAUM ENGINEERING CORPORATION PROPOSAL</b>		
<b>CLEARANCES</b>		<b>APPROVAL</b>	
<b>LEGAL:</b>	<b>MEREDITH RIEDE,  ASSISTANT CITY ATTORNEY</b>	<b>EXECUTIVE DIRECTOR:</b>	<b>N/A</b>
<b>PURCHASING:</b>	<b>TODD REED, CPPB PURCHASING MANAGER </b>	<b>ASSISTANT CITY MANAGER:</b>	<b>KAREN DALY </b>
<b>BUDGET:</b>	<b>BRYAN GUINN,  ASSISTANT BUDGET &amp; RESEARCH DIRECTOR</b>	<b>CITY MANAGER:</b>	<b>ALLEN BOGARD </b>
<b>BUDGET</b>			
<b>EXPENDITURE REQUIRED: \$</b>		<b>70,538</b>	
<b>CURRENT BUDGET: \$</b>		<b>806,150</b>	
<b>ADDITIONAL FUNDING: \$</b>		<b>N/A</b>	
<b>RECOMMENDED ACTION</b>			
Authorize the execution of a design contract with Dannenbaum Engineering Corporation for the replacement of a 24-inch sanitary sewer force main from the Lexington Lift Station to the Sweetwater Lift Station, CIP WW1303 in the amount of \$70,538.			

## EXECUTIVE SUMMARY

The City's South Wastewater Collection System's primary conveyance conduit is a 24-inch force main which parallels Bullhead slough and flows from the Lexington lift station to the South Wastewater Treatment Plant (SWWTP). The force main consist of three sections: Lexington to Sweetwater, Sweetwater to Settlers Way and Settlers Way to the South Plant. The two sections of force main between the Sweetwater lift station and the SWWTP were replaced/upgraded in 2005 and 2008 due to severe corrosion and capacity restrictions. The Lexington to Sweetwater section is now in need of replacement. This section has recently experienced failures and is reaching the end of its useful life.

In FY13, Dannenbaum Engineering Corporation was selected for preliminary engineering report preparation for the replacement force main. The preliminary engineering analysis determined the existing force main is oversized and recommends replacing the 4,950 linear feet of 24-inch ductile iron pipe with a 16-inch PVC force main. Downsizing will improve pumping efficiency and reduce construction cost, while still providing ultimate flow capacity.

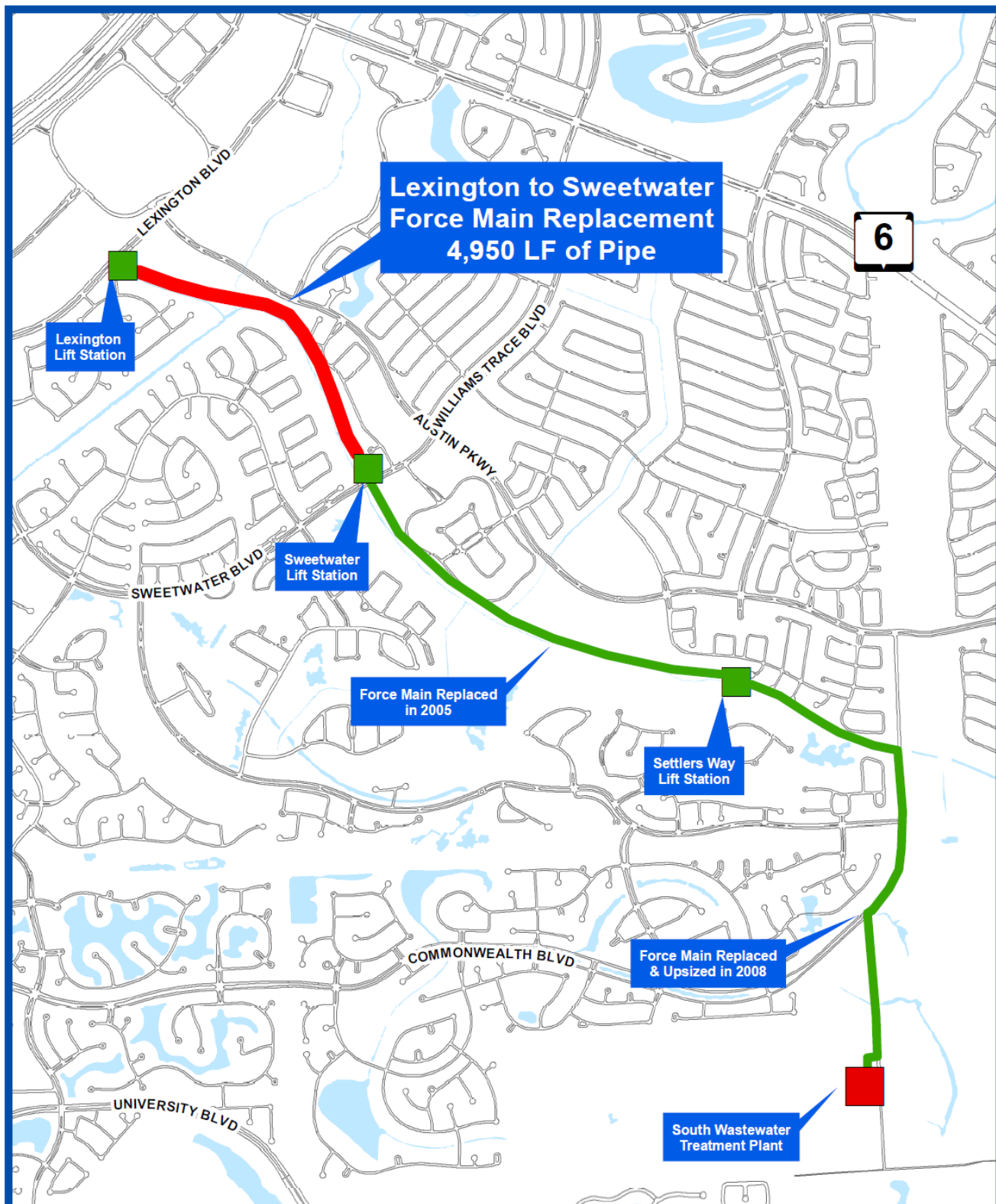
The project is ready to move forward for design phase. The scope of services for Dannenbaum Engineering will include the following items:

- Surveying and Site visits
- Preparation of Construction Plans and Specifications
- Preparation of Final Probable Construction costs
- Bid Phase Services
- Prepare Bid Tabulation & Recommendation of Award
- Document Reproduction
- Prepare Conform Documents for Construction Contract Execution

Dannenbaum Engineering was selected in accordance with City Policy PU-109, Procurement of Professional Services and Consulting. The design amount of \$70,538 was negotiated through a level of effort with Dannenbaum Engineering. Funding for design for this project is available from CIP WW1303 with construction expected in FY14.

The Engineering and Water Utilities Departments recommend that the City Council authorize the execution of a design contract with Dannenbaum Engineering Corporation for the replacement of the Lexington to Sweetwater Lift Station 24-inch Force Main, CIP WW1303 in the amount of \$70,538.

## EXHIBITS



**CITY OF SUGAR LAND**  
CAPITAL IMPROVEMENT PROGRAM  
Lexington to Sweetwater Force Main Replacement  
CIP NO. WW1303



## Over \$50K - Form Revised 3/1/10

dannenbaumforcemaincon  
9/30/13

September 25, 2013

Mr. Pete Polito  
City of Sugar Land  
2700 Town Center Blvd., North  
Sugar Land, Texas 77479

Re: **Proposal for Engineering Services for the City of Sugar Land  
24-Inch Force Main Rehabilitation/Replacement Project**

Dear Mr. Polito:

Dannenbaum Engineering Corporation, at your request, is pleased to submit this proposal for engineering services for the City of Sugar Land 24-inch Force Main Rehabilitation/Replacement Project.

Dannenbaum submitted a Preliminary Engineering Report (PER) for the City of Sugar Land which investigated an existing 24-inch Force Main that has exhibited signs of aging and appeared to be in need of rehabilitation or replacement. Based on the recommendations of the PER, the existing Force Main will be grouted and abandoned in place, and replaced by a new 16-inch force main installed in a proposed eight (8) foot easement adjacent to the existing Force Main.

The existing Force Main is in an existing ten (10) foot easement which basically runs parallel to Austin Parkway alongside a drainage channel easement. The Force Main flows from the Lexington Lift Station to the Sweetwater Lift Station. The proposed 16-inch Force Main will parallel the existing Force Main in a proposed eight (8) foot easement. The proposed eight (8) foot easement will need to be acquired by the City. There are six (6) parcels of land that constitute the entire proposed easement. The estimated construction cost for this project, including all appurtenances, is approximately \$798,600.00, not including easement acquisition.

The total Lump Sum Engineering Cost for this work, including extra services such as topographic survey and geotechnical investigation, is \$70,538.00. Construction Phase Services are not included, and fees for Construction Phase Services can be negotiated at a later date, should the City desire.

The proposed engineering services, fees, and extra services are broken down into the following phases of work:

**Basic Services**

Final Design Phase	\$ 60,180.00
<b>Total Basic Services</b>	<b>\$ 60,180.00</b>

**Additional Services**

Non Labor Costs (mileage, postage, delivery services)	\$ 2,000.00
Survey (Topographic)	\$ 6,358.00
Reproduction of Documents	\$ 2,000.00
<b>Total Additional Services</b>	<b>\$ 10,358.00</b>

<b>Total Basic and Additional Services Fees</b>	<b>\$ 70,538.00</b>
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Dannenbaum Engineering Corporation has put together a team of professionals, all of which have significant experience working on similar rehabilitation/replacement projects, to complete the work on the project.

A spreadsheet is attached to provide more detail on the engineering scope, and the fees presented above.

Dannenbaum Engineering Corp appreciates the opportunity to work with both you and the City of Sugar Land towards the successful completion of this project.

If you have any questions, or need additional assistance, please do not hesitate to call.

Sincerely,

DANNENBAUM ENGINEERING CORPORATION



Carl D. McConnell, P.E.  
Assistant Manager – Public Works Division

CC: File

**CITY OF SUGAR LAND**  
24-IN Force Main Rehabilitation/Replacement

**PRELIMINARY ESTIMATE OF COSTS**  
September 2013

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL*
1.	MOBILIZATION (3% of GAB)	1	LS	22,100	\$ 22,100.00
2.	POLLUTION PREVENTION, IMPLEMENTATION, MAINTENANCE, INSPECTION, AND REPORTING	5	MO.	500	2,500.00
3.	STABILIZED CONSTRUCTION EXITS, COMPLETE & IN PLACE	250	SY	30	7,500.00
4.	FILTER FABRIC FENCE, COMPLETE & IN PLACE	4,750	LF	2	9,500.00
5.	HYDROMULCH SEEDING	2	AC.	1,250	2,500.00
6.	TRENCH SAFETY	4,750	LF	2	9,500.00
7.	16-INCH DIAMETER FORCE MAIN BY OPEN CUT CONSTRUCTION, COMPLETE & IN PLACE	4,800	LF	95	456,000.00
8.	16-INCH DIAMETER FORCE MAIN BY TRENCHLESS CONSTRUCTION, COMPLETE & IN PLACE	250	LF	380	95,000.00
9.	GROUNDWATER CONTROL FOR OPEN CUT CONSTRUCTION	4,750	LF	20	95,000.00
10.	CONNECTION TO LIFT STATION	2	EA.	9,500	19,000.00
11.	GROUT AND ABANDON EXISTING 24-INCH FORCE MAIN, COMPLETE & IN PLACE	5,000	LF	16	80,000.00
<b>TOTAL</b>					<b>\$ 798,600.00</b>

**TOTAL CONSTRUCTION COST ESTIMATE**

**\$ 798,600.00**

\* ITEM TOTAL includes Contractor Overhead, Profit, Insurance and Bonds



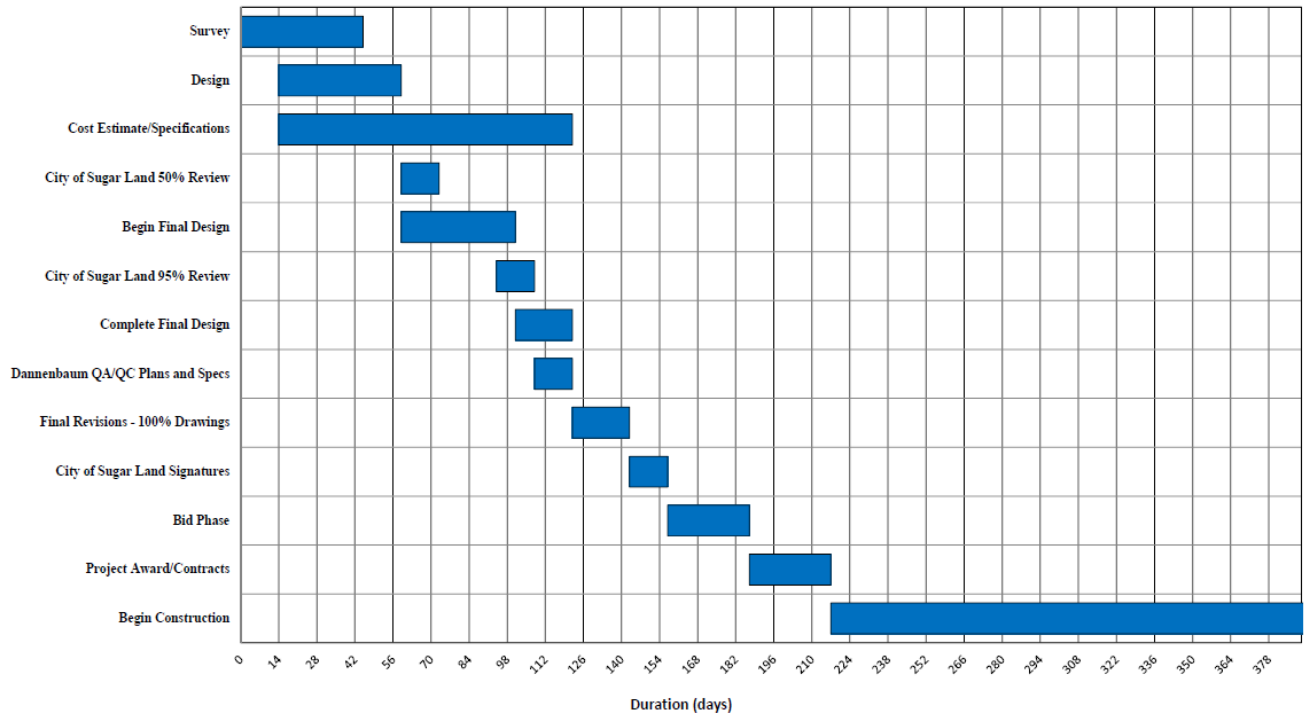
**CITY OF SUGAR LAND**  
24-Inch Force Main Rehabilitation/Replacement

**Engineering Fee Estimate**  
September 2013

	ENGINEERING						Total by Task
	Principal	Project Manager	Civil Engineer	CADD Operator	Admin Support	Sub-Total (Manhours)	
Direct Labor (\$ Per Hour)	\$ 250.00	\$ 220.00	\$ 110.00	\$ 85.00	\$ 70.00		
<b>Basic Services Tasks</b>							
2.00 Final Design							
2.01 Project Management		16				16	\$ 3,520.00
2.02 Coordination Meetings		4	8			12	\$ 1,760.00
2.03 Prepare Final Plans (95%)		4	32	304	4	344	\$ 30,520.00
2.04 Prepare List of Required Specifications		2	4		4	10	\$ 1,160.00
2.05 Prepare Specifications		2	4		8	14	\$ 1,440.00
2.06 Resolve City Comments		4	4	16	2	26	\$ 2,820.00
2.07 Complete Plans (100%)		4	16	24	4	48	\$ 4,960.00
2.08 Incorporate Comments		2	8	16	2	28	\$ 2,820.00
2.09 Prepare Bidding Documents		4	4		8	16	\$ 1,880.00
2.10 Prepare Construction Cost Estimate		4	8		2	14	\$ 1,900.00
3.00 Bid Phase							
3.01 Provide Bid Documents		2	2		4	8	\$ 940.00
3.02 Attend Prebid Conference		4	4		2	10	\$ 1,460.00
3.03 Respond to Bidders Questions		2	2		2	6	\$ 800.00
3.04 Prepare Addenda (as required)		2	2		4	8	\$ 940.00
3.05 Evaluate and Submit Tabulated Bids		2	4		2	8	\$ 1,020.00
3.06 Prepare Written Recommendation		2	2		2	6	\$ 800.00
3.07 Prepare Construction Contracts		2	4		8	14	\$ 1,440.00
TOTAL HOURS FOR PHASE II	0	62	108	360	58	588	SUBTOTAL
TOTAL FEES FOR PHASE II	\$ -	\$ 13,640.00	\$ 11,880.00	\$ 30,600.00	\$ 4,060.00	\$ 60,180.00	\$ 60,180.00
<b>Construction Services</b>							
4.00 Construction Services							
4.01 Project Management						0	\$ -
4.02 Attend Preconstruction Meeting/Prepare Minutes						0	\$ -
4.03 Attend Progress Meetings/Site Visits						0	\$ -
4.04 Maintain Log of Submittals Processed						0	\$ -
4.05 Review Submittals						0	\$ -
4.06 Respond to RFI's						0	\$ -
4.07 Perform Site Observation at Substantial Completion						0	\$ -
4.08 Perform Site Observation at Final Completion						0	\$ -
4.09 Prepare Record Drawings						0	\$ -
TOTAL HOURS FOR PHASE III	0	0	0	0	0	0	SUBTOTAL
TOTAL FEES FOR PHASE III	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL BASIC SERVICES HOURS	0	62	108	360	58	588	SUBTOTAL
TOTAL BASIC SERVICES FEES	\$ -	\$ 13,640.00	\$ 11,880.00	\$ 30,600.00	\$ 4,060.00	\$ 60,180.00	\$ 60,180.00
BASIC ENGINEERING SERVICES FEES BY PHASE				PHASE II	PHASE III	TOTALS	
				\$ 60,180.00	\$ -	\$ 60,180.00	
5.00 Additional Services Tasks by Phase				PHASE II	PHASE III	TOTALS	
5.01 Non Labor Costs (mileage, postage, delivery services)				1,000	1,000	2,000	
5.02 Surveying (Topographic)				6,358		6,358	
5.03 Reproduction of Documents				1,000	1,000	2,000	
TOTAL ADDITIONAL SERVICES COSTS				\$ 8,358	2,000	10,358	
TOTALS BY PHASE				68,538.00	2,000.00	70,538.00	
TOTAL COST						\$ 70,538.00	



CITY OF SUGAR LAND  
**24-IN FORCE MAIN REHABILITATION/REPLACEMENT**  
 PRELIMINARY PROJECT SCHEDULE



# City of Sugar Land

## 24-IN Force Main Rehabilitation/Replacement

### Preliminary Drawing List

Sheet No.	General	DWG No.
1	Cover Sheet	G01
2	Drawing Index and Legend	G02
3	General Construction Notes	G03
4	Bench Mark Data, Survey Control, and Boring Locations	G04
<b>Civil</b>		
5	Overall Plan	C01
6	Sheet Index Map	C02
7	16" Force Main Plan & Profile Sta. 0+00 to 5+00	C03
8	16" Force Main Plan & Profile Sta. 5+00 to 10+00	C04
9	16" Force Main Plan & Profile Sta. 10+00 to 15+00	C05
10	16" Force Main Plan & Profile Sta. 15+00 to 20+00	C06
11	16" Force Main Plan & Profile Sta. 20+00 to 25+00	C07
12	16" Force Main Plan & Profile Sta. 25+00 to 30+00	C08
13	16" Force Main Plan & Profile Sta. 30+00 to 35+00	C09
14	16" Force Main Plan & Profile Sta. 35+00 to 40+00	C10
15	16" Force Main Plan & Profile Sta. 40+00 to 45+00	C11
16	16" Force Main Plan & Profile Sta. 45+00 to 50+00	C12
17	Typical Cross Sections	C13
18	Connection Details	C14
<b>Details</b>		
19	Miscellaneous Details	D01
20	Sanitary Sewer Manhole Construction Details (1 of 2)	D02
21	Sanitary Sewer Manhole Construction Details (2 of 2)	D03
22	Water Line, Sanitary Sewer Force Main Bedding Details	D04
23	Sign Construction Details	D05
24	General Erosion Control Notes	D06
25	Erosion Control Details	D07
26	Traffic Control Details	D08